TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

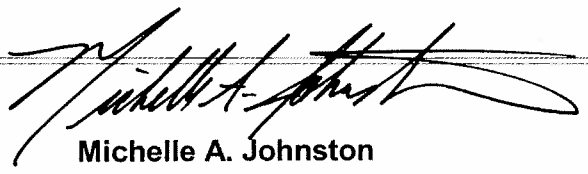
ANALYTICAL REPORT

Perfluorocarbon (PFC) Analysis

Lot #: D9H260198

Dena Haverland

Dalton Utilities
1200 V.D. Parrot Jr. Parkway
Dalton, GA 30721



Michelle A. Johnston
Project Manager

September 18, 2009

Case Narrative
D9H260198

TestAmerica Denver utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the methods summary page in accordance with the methods indicated. Dilution factors and footnotes are provided on each datasheet to assist in the interpretation of the results.

The results relate only to the samples in this report and meet all requirements of NELAC. All data have been reviewed for compliance with the laboratory QA/QC plan and have found to be compliant with laboratory protocols with any exceptions noted below.

Please note that Non-Detect (ND) results have been evaluated down to the Method Detection Limit (MDL) and should be considered ND at the MDL. Unless otherwise noted, results for solids have been dry weight corrected.

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Sample Arrival and Receipt
The following report contains the analytical results for seven samples received at TestAmerica Denver on August 26, 2009, according to documented sample acceptance procedures. The samples were received in good condition at a temperature of 3.3°C.

Chain-of-custody 116937 did not list associated sample collection times. The sample collection times were logged per the information on the sample container labels. The client was notified on August 26, 2009.

No other anomalies were encountered during sample receipt.

Standards
Analytical standards were prepared using commercially available certified solutions containing all compounds of interest.

The mass labeled compounds 13C4 PFBA, 13C2 PFHxA, 18O2 PFHxS, 13C4 PFOA, 13C4 PFOS, 13C5 PFNA, 13C2 PFDA, 13C2 PFUnA, 13C2 PFDoA, and D3 MeFOSA were introduced at the extraction step and were used for internal standards for the quantitation of the target compounds.

Sample Extraction and Analysis
The samples presented in this report were extracted for the target analytes by TestAmerica Denver's Standard Operating Procedure (SOP) DV-OP-0019 and analyzed for the target analytes by TestAmerica Denver's SOP DV-LC-0012.

Method QC Samples
The Method Blank is processed reagent water spiked with surrogate and prepared with each batch of 20 samples of the same matrix. The method blanks were non-detect at the reporting limits for the target analytes.

Each batch is prepared with low and mid level Laboratory Control Samples (LCS). The LCS recoveries for both levels were within established control limits, with the exception of the items noted in section Analytical Comments.

Analytical Comments

Please note during the FOSA extraction process all seven samples clogged the cartridge; therefore, the organic preparation chemist had to use two cartridges for each of these samples.

Sample #43 3500 BROWN'S BRIDGE RD exhibited an elevated detection limit. The method specified initial extract volume is 250-mLs; however, only 196-mLs passed through the two cartridges used for the extraction. The dilution factor has been adjusted accordingly.

Due to low internal standard recoveries in the samples and in the method blank associated with QC batch 9240149, samples #42 3334 BROWN'S BRIDGE RD, #45 275 ARTIS CHARLES RD, and DUP were re-extracted out of the laboratory prescribed hold time and reanalyzed in QC batch 9251485. Both batches are included in this report. Please note the sample results should be considered estimated.

The Standard Operating Procedure (SOP) was altered slightly in the sample preparation for FOSA. Sodium hydroxide was added to all seven samples to obtain a pH of 14 instead of the SOP required <2. The basic pH is generating better internal standard recoveries for MeFOSA.

The internal standard recoveries for MeFOSA associated with QC batch 9240149 were recovered below 50% in samples #42 3334 BROWN'S BRIDGE RD, #43 3500 BROWN'S BRIDGE RD, #44 BROWN'S BRIDGE RD, #45 ARTIS CHARLES RD, #46 310 DAVENPORT RD, and DUP. This is an indicator that data may be biased low. Upon re-extraction past hold time and reanalysis in QC batch 9251485, surrogate recovery outliers were still present in samples #43 3500 BROWN'S BRIDGE RD, #44 BROWN'S BRIDGE RD, and #46 310 DAVENPORT RD, demonstrating that this anomaly is most likely due to matrix interference. Upon re-extraction past hold time and reanalysis in QC batch 9251485, surrogate recoveries were 100% in control in samples #42 3334 BROWN'S BRIDGE RD, #45 275 ARTIS CHARLES RD, and DUP. Both the original and reanalysis data have been provided for samples #42 3334 BROWN'S BRIDGE RD, #45 275 ARTIS CHARLES RD, and DUP, as re-extraction was unavoidably performed outside the laboratory recommended sample holding time.

The Method Blank associated with QC batch 9240149 exhibited an internal standard recovery outside the QC control limits for MeFOSA. Upon re-extraction and reanalysis in QC batch 9251485, percent recoveries were 100% in control. Both sets of data have been provided, as re-extraction was unavoidably performed outside the laboratory recommended sample holding time.

The low-level LCS and mid-level LCSD analyses associated with QC batch 9240149 exhibited percent recoveries outside the QC control limits for Perfluorooctane sulfonamide (FOSA). This is an indicator that data may be biased high. As no detectable concentrations are present in the associated samples, corrective action is deemed unnecessary.

The method required MS/MSD could not be performed for QC batches 9239360, 9240149, and 9251485, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable low-level LCS and mid-level LCS/LCSD analyses data.

No other anomalies were observed.

EXECUTIVE SUMMARY - Detection Highlights

D9H260198

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
#46 310 DAVENPORT RD 08/25/09 11:31 006				
Perfluorohexanoic acid (PFHxA)	0.0047 J	0.020	ug/L	DEN -LC-0012

METHODS SUMMARY

D9H260198

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
LC/MS/MS PFCs	DEN -LC-0012	SW846 FOSA spec

References:

DEN Severn Trent Laboratores, Denver, Facility Standard Operating Procedure.

METHOD / ANALYST SUMMARY

D9H260198

ANALYTICAL METHOD	ANALYST	ANALYST ID
DEN -LC-0012	Jacqueline Bonnett	003601

References:

DEN Severn Trent Laboratores, Denver, Facility Standard Operating Procedure.

SAMPLE SUMMARY

D9H260198

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
LJRQ0	001	#41 3403 BROWNS'S BRIDGE RD	08/25/09	10:27
LJRRP	002	#42 3334 BROWNS'S BRIDGE RD	08/25/09	10:42
LJRRW	003	#43 3500 BROWNS'S BRIDGE RD	08/25/09	10:53
LJRR2	004	#44 3285 BROWNS'S BRIDGE RD	08/25/09	11:04
LJRTC	005	#45 275 ARTIS CHARLES RD	08/25/09	11:13
LJRTJ	006	#46 310 DAVENPORT RD	08/25/09	11:31
LJRTM	007	DUP	08/25/09	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Dalton Utilities

Client Sample ID: #41 3403 BROWNS'S BRIDGE RD

HPLC

Lot-Sample #...: D9H260198-001 **Work Order #...:** LJRQ01AA **Matrix.....:** WATER
Date Sampled...: 08/25/09 10:27 **Date Received..:** 08/26/09
Prep Date.....: 08/27/09 **Analysis Date..:** 08/29/09
Prep Batch #...: 9239360 **Analysis Time..:** 02:34
Dilution Factor: 1
Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	97	(50 - 200)
13C4 PFOS	60	(50 - 200)
13C4 PFBA	82	(50 - 200)
13C2 PFHxA	100	(50 - 200)
18O2 PFHxS	85	(50 - 200)
13C5 PFNA	78	(50 - 200)
13C2 PFDA	62	(50 - 200)
13C2 PFUnA	60	(50 - 200)
13C2 PFDoA	65	(50 - 200)

Dalton Utilities

Client Sample ID: #41 3403 BROWNS'S BRIDGE RD

HPLC

Lot-Sample #...: D9H260198-001 **Work Order #...:** LJRQ01AC **Matrix.....:** WATER
Date Sampled...: 08/25/09 10:27 **Date Received..:** 08/26/09
Prep Date.....: 08/28/09 **Analysis Date..:** 08/29/09
Prep Batch #...: 9240149 **Analysis Time..:** 18:51
Dilution Factor: 1
Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (FOSA)	ND	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
MeFOSA	51	(50 - 200)

Dalton Utilities

Client Sample ID: #42 3334 BROWNS'S BRIDGE RD

HPLC

Lot-Sample #...: D9H260198-002 **Work Order #...:** LJRRP1AA **Matrix.....:** WATER
Date Sampled...: 08/25/09 10:42 **Date Received..:** 08/26/09
Prep Date.....: 08/27/09 **Analysis Date..:** 08/29/09
Prep Batch #...: 9239360 **Analysis Time..:** 02:50
Dilution Factor: 1
Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	97	(50 - 200)
13C4 PFOS	62	(50 - 200)
13C4 PFBA	85	(50 - 200)
13C2 PFHxA	100	(50 - 200)
18O2 PFHxS	85	(50 - 200)
13C5 PFNA	79	(50 - 200)
13C2 PFDA	65	(50 - 200)
13C2 PFUnA	60	(50 - 200)
13C2 PFDoA	66	(50 - 200)

Dalton Utilities

Client Sample ID: #42 3334 BROWNS'S BRIDGE RD

HPLC

Lot-Sample #...: D9H260198-002 **Work Order #...:** LJRRP1AC **Matrix.....:** WATER
Date Sampled...: 08/25/09 10:42 **Date Received..:** 08/26/09
Prep Date.....: 08/28/09 **Analysis Date..:** 08/29/09
Prep Batch #...: 9240149 **Analysis Time..:** 18:59
Dilution Factor: 1
Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (FOSA)	ND	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
MeFOSA	49 *	(50 - 200)

NOTE(S):

* Surrogate recovery is outside stated control limits.

Dalton Utilities

Client Sample ID: #42 3334 BROWNS'S BRIDGE RD

HPLC

Lot-Sample #...: D9H260198-002 **Work Order #...:** LJRRP3AC **Matrix.....:** WATER
Date Sampled...: 08/25/09 10:42 **Date Received..:** 08/26/09
Prep Date.....: 09/08/09 **Analysis Date..:** 09/10/09
Prep Batch #...: 9251485 **Analysis Time..:** 18:43
Dilution Factor: 1
Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (FOSA)	ND	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
MeFOSA	55	(50 - 200)

Dalton Utilities

Client Sample ID: #43 3500 BROWNS'S BRIDGE RD

HPLC

Lot-Sample #...: D9H260198-003 **Work Order #...:** LJRRW1AA **Matrix.....:** WATER
Date Sampled...: 08/25/09 10:53 **Date Received..:** 08/26/09
Prep Date.....: 08/27/09 **Analysis Date..:** 08/29/09
Prep Batch #...: 9239360 **Analysis Time..:** 03:06
Dilution Factor: 1
Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	94	(50 - 200)
13C4 PFOS	62	(50 - 200)
13C4 PFBA	84	(50 - 200)
13C2 PFHxA	100	(50 - 200)
18O2 PFHxS	84	(50 - 200)
13C5 PFNA	80	(50 - 200)
13C2 PFDA	63	(50 - 200)
13C2 PFUnA	61	(50 - 200)
13C2 PFDoA	66	(50 - 200)

Dalton Utilities

Client Sample ID: #43 3500 BROWNS'S BRIDGE RD

HPLC

Lot-Sample #...: D9H260198-003 **Work Order #...:** LJRRW1AC **Matrix.....:** WATER
Date Sampled...: 08/25/09 10:53 **Date Received..:** 08/26/09
Prep Date.....: 08/28/09 **Analysis Date..:** 08/29/09
Prep Batch #...: 9240149 **Analysis Time..:** 19:06
Dilution Factor: 1.28
Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (FOSA)	ND	0.064	ug/L	0.0073

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
MeFOSA	39 *	(50 - 200)

NOTE(S):

* Surrogate recovery is outside stated control limits.

Dalton Utilities

Client Sample ID: #44 3285 BROWNS'S BRIDGE RD

HPLC

Lot-Sample #...: D9H260198-004 **Work Order #...:** LJRR21AA **Matrix.....:** WATER
Date Sampled...: 08/25/09 11:04 **Date Received..:** 08/26/09
Prep Date.....: 08/27/09 **Analysis Date..:** 08/29/09
Prep Batch #...: 9239360 **Analysis Time..:** 03:22
Dilution Factor: 1
Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	108	(50 - 200)
13C4 PFOS	71	(50 - 200)
13C4 PFBA	94	(50 - 200)
13C2 PFHxA	113	(50 - 200)
18O2 PFHxS	96	(50 - 200)
13C5 PFNA	89	(50 - 200)
13C2 PFDA	73	(50 - 200)
13C2 PFUnA	70	(50 - 200)
13C2 PFDoA	83	(50 - 200)

Dalton Utilities

Client Sample ID: #44 3285 BROWNS'S BRIDGE RD

HPLC

Lot-Sample #...: D9H260198-004 **Work Order #...:** LJRR21AC **Matrix.....:** WATER
Date Sampled...: 08/25/09 11:04 **Date Received..:** 08/26/09
Prep Date.....: 08/28/09 **Analysis Date..:** 08/29/09
Prep Batch #...: 9240149 **Analysis Time..:** 19:13
Dilution Factor: 1
Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (FOSA)	ND	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
MeFOSA	44 *	(50 - 200)

NOTE(S):

* Surrogate recovery is outside stated control limits.

Dalton Utilities

Client Sample ID: #45 275 ARTIS CHARLES RD

HPLC

Lot-Sample #...: D9H260198-005 **Work Order #...:** LJRTC1AA **Matrix.....:** WATER
Date Sampled...: 08/25/09 11:13 **Date Received..:** 08/26/09
Prep Date.....: 08/27/09 **Analysis Date..:** 08/29/09
Prep Batch #...: 9239360 **Analysis Time..:** 03:38
Dilution Factor: 1
Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	116	(50 - 200)
13C4 PFOS	78	(50 - 200)
13C4 PFBA	96	(50 - 200)
13C2 PFHxA	115	(50 - 200)
18O2 PFHxS	94	(50 - 200)
13C5 PFNA	98	(50 - 200)
13C2 PFDA	79	(50 - 200)
13C2 PFUnA	80	(50 - 200)
13C2 PFDoA	86	(50 - 200)

Dalton Utilities

Client Sample ID: #45 275 ARTIS CHARLES RD

HPLC

Lot-Sample #...: D9H260198-005	**Work Order #...:** LJRTC1AC		**Matrix.....:** WATER
Date Sampled...: 08/25/09 11:13	**Date Received..:** 08/26/09		
Prep Date.....: 08/28/09	**Analysis Date..:** 08/29/09		
Prep Batch #...: 9240149	**Analysis Time..:** 19:20		
Dilution Factor: 1			
	Method.....: DEN -LC-0012		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (FOSA)	ND	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
MeFOSA	49 *	(50 - 200)

NOTE(S):

* Surrogate recovery is outside stated control limits.

Dalton Utilities

Client Sample ID: #45 275 ARTIS CHARLES RD

HPLC

Lot-Sample #...: D9H260198-005 **Work Order #...:** LJRTC3AC **Matrix.....:** WATER
Date Sampled...: 08/25/09 11:13 **Date Received..:** 08/26/09
Prep Date.....: 09/08/09 **Analysis Date..:** 09/10/09
Prep Batch #...: 9251485 **Analysis Time..:** 19:04
Dilution Factor: 1
Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (FOSA)	ND	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
MeFOSA	54	(50 - 200)

Dalton Utilities

Client Sample ID: #46 310 DAVENPORT RD

HPLC

Lot-Sample #...: D9H260198-006 **Work Order #...:** LJRTJ1AA **Matrix.....:** WATER
Date Sampled...: 08/25/09 11:31 **Date Received..:** 08/26/09
Prep Date.....: 08/27/09 **Analysis Date..:** 08/29/09
Prep Batch #...: 9239360 **Analysis Time..:** 03:54
Dilution Factor: 1
Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	**0.0047 J**	**0.020**	**ug/L**	**0.0030**
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	98	(50 - 200)
13C4 PFOS	61	(50 - 200)
13C4 PFBA	87	(50 - 200)
13C2 PFHxA	103	(50 - 200)
18O2 PFHxS	86	(50 - 200)
13C5 PFNA	82	(50 - 200)
13C2 PFDA	64	(50 - 200)
13C2 PFUnA	64	(50 - 200)
13C2 PFDoA	72	(50 - 200)

NOTE(S):

J Estimated result. Result is less than RL.

Dalton Utilities

Client Sample ID: #46 310 DAVENPORT RD

HPLC

Lot-Sample #...: D9H260198-006 **Work Order #...:** LJRTJ1AC **Matrix.....:** WATER
Date Sampled...: 08/25/09 11:31 **Date Received..:** 08/26/09
Prep Date.....: 08/28/09 **Analysis Date..:** 08/29/09
Prep Batch #...: 9240149 **Analysis Time..:** 19:27
Dilution Factor: 1
Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (FOSA)	ND	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
MeFOSA	45 *	(50 - 200)

NOTE(S):

* Surrogate recovery is outside stated control limits.

Dalton Utilities

Client Sample ID: DUP

HPLC

Lot-Sample #...: D9H260198-007 **Work Order #...:** LJRTM1AA **Matrix.....:** WATER
Date Sampled...: 08/25/09 **Date Received..:** 08/26/09
Prep Date.....: 08/27/09 **Analysis Date..:** 08/29/09
Prep Batch #...: 9239360 **Analysis Time..:** 04:10
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	110	(50 - 200)
13C4 PFOS	70	(50 - 200)
13C4 PFBA	92	(50 - 200)
13C2 PFHxA	110	(50 - 200)
18O2 PFHxS	92	(50 - 200)
13C5 PFNA	90	(50 - 200)
13C2 PFDA	71	(50 - 200)
13C2 PFUnA	73	(50 - 200)
13C2 PFDoA	78	(50 - 200)

Dalton Utilities

Client Sample ID: DUP

HPLC

Lot-Sample #...: D9H260198-007 **Work Order #...:** LJRTM1AC **Matrix.....:** WATER
Date Sampled...: 08/25/09 **Date Received..:** 08/26/09
Prep Date.....: 08/28/09 **Analysis Date..:** 08/29/09
Prep Batch #...: 9240149 **Analysis Time..:** 19:42
Dilution Factor: 1
Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (FOSA)	ND	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
MeFOSA	47 *	(50 - 200)

NOTE(S):

* Surrogate recovery is outside stated control limits.

Dalton Utilities

Client Sample ID: DUP

HPLC

Lot-Sample #...: D9H260198-007 **Work Order #...:** LJRTM3AC **Matrix.....:** WATER
Date Sampled...: 08/25/09 **Date Received..:** 08/26/09
Prep Date.....: 09/08/09 **Analysis Date..:** 09/10/09
Prep Batch #...: 9251485 **Analysis Time..:** 19:19
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (FOSA)	ND	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
MeFOSA	65	(50 - 200)